



SEQUENCE LISTING

<110> Dalla-Favera, Riccardo

<120> ISOLATION OF FIVE NOVEL GENES ENCODING FOR NEW Fc RECEPTORS-TYPE
MELANOMA INVOLVED IN THE PATHOGENESIS OF LYMPHOMA/MYELOMA

<130> 0575/58044-a

<140> 09/724,254

<141> 2000-11-28

<160> 44

<170> PatentIn version 3.1

<210> 1

<211> 515

<212> PRT

<213> Homo Sapiens

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Phe Tyr Ala Thr Glu Lys Thr Thr Trp Tyr His Arg His Tyr Trp Gly
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Glu Lys Leu Thr Leu Thr Pro Gly Asn Thr Leu Glu Val Arg Glu Ser
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Gly Leu Tyr Arg Cys Gln Ala Arg Gly Ser Pro Arg Ser Asn Pro Val
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Val Phe Glu Gly Asp Thr Leu Val Leu Arg Cys His Arg Arg Arg Lys
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Glu Lys Leu Thr Ala Val Lys Tyr Thr Trp Asn Gly Asn Ile Leu Ser
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Ile Ser Asn Lys Ser Trp Asp Leu Leu Ile Pro Gln Ala Ser Ser Asn

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TECH CENTER 1600/2900

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Thr Val Phe Gln Gly Glu Arg Val Thr Leu Thr Cys Lys Gly Phe Arg
 35 40 45

Phe Tyr Ser Pro Gln Lys Thr Lys Trp Tyr His Arg Tyr Leu Gly Lys
 50 55 60

Glu Ile Leu Arg Glu Thr Pro Asp Asn Ile Leu Glu Val Gln Glu Ser
 65 70 75 80

Gly Glu Tyr Arg Cys Gln Ala Gln Gly Ser Pro Leu Ser Ser Pro Val
 85 90 95

His Leu Asp Phe Ser Ser Ala Ser Leu Ile Leu Gln Ala Pro Leu Ser
 100 105 110

Val Phe Glu Gly Asp Ser Val Val Leu Arg Cys Arg Ala Lys Ala Glu
 115 120 125

Val Thr Leu Asn Asn Thr Ile Tyr Lys Asn Asp Asn Val Leu Ala Phe
 130 135 140

Leu Asn Lys Arg Thr Asp Phe His Ile Pro His Ala Cys Leu Lys Asp
 145 150 155 160

Asn Gly Ala Tyr Arg Cys Thr Gly Tyr Lys Glu Ser Cys Cys Pro Val
 165 170 175

Ser Ser Asn Thr Val Lys Ile Gln Val Gln Glu Pro Phe Thr Arg Pro
 180 185 190

Val Leu Arg Ala Ser Ser Phe Gln Pro Ile Ser Gly Asn Pro Val Thr
 195 200 205

Leu Thr Cys Glu Thr Gln Leu Ser Leu Glu Arg Ser Asp Val Pro Leu
 210 215 220

Arg Phe Arg Phe Phe Arg Asp Asp Gln Thr Leu Gly Leu Gly Trp Ser
 225 230 235 240

Leu Ser Pro Asn Phe Gln Ile Thr Ala Met Trp Ser Lys Asp Ser Gly
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Phe Tyr Trp Cys Lys Ala Ala Thr Met Pro His Ser Val Ile Ser Asp
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Ser Pro Arg Ser Trp Ile Gln Val Gln Ile Pro Ala Ser His Pro Val
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Leu Thr Leu Ser Pro Glu Lys Ala Leu Asn Phe Glu Gly Thr Lys Val
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Thr Leu His Cys Glu Thr Gln Glu Asp Ser Leu Arg Thr Leu Tyr Arg
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Phe Tyr His Glu Gly Val Pro Leu Arg His Lys Ser Val Arg Cys Glu
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Arg Gly Ala Ser Ile Ser Phe Ser Leu Thr Thr Glu Asn Ser Gly Asn
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Tyr Tyr Cys Thr Ala Asp Asn Gly Leu Gly Ala Lys Pro Ser Lys Ala
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Val Ser Leu Ser Val Thr Val Pro Val Ser His Pro Val Leu Asn Leu
 370 375 380

Ser Ser Pro Glu Asp Leu Ile Phe Glu Gly Ala Lys Val Thr Leu His
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Cys Glu Ala Gln Arg Gly Ser Leu Pro Ile Leu Tyr Gln Phe His His
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Ala Ile Ser Phe Ser Leu Thr Ala Glu His Ser Gly Asn Tyr Tyr Cys
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Thr Ala Asp Asn Gly Phe Gly Pro Gln Arg Ser Lys Ala Val Ser Leu
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Ser Ile Thr Val Pro Val Ser His Pro Val Leu Thr Leu Ser Ser Ala
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Glu Ala Leu Thr Phe Glu Gly Ala Thr Val Thr Leu His Cys Glu Val
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Gln Arg Gly Ser Pro Gln Ile Leu Tyr Gln Phe Tyr His Glu Asp Met
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Pro Leu Val Ser Ser Ser Thr Pro Ser Val Gly Arg Val Ser Phe Ser
 515 520 525

Phe Ser Leu Thr Glu Gly His Ser Gly Asn Tyr Tyr Cys Thr Ala Asp
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Asn Gly Phe Gly Pro Gln Arg Ser Glu Val Val Ser Leu Phe Val Thr
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Thr Ala Phe Lys Gly Glu Lys Val Ala Leu Ile Cys Ser Ser Ile Ser
35 40 45

His Ser Leu Ala Gln Gly Asp Thr Tyr Trp Tyr His Asp Glu Lys Leu
50 55 60

Leu Lys Ile Lys His Asp Lys Ile Gln Ile Thr Glu Pro Gly Asn Tyr
65 70 75 80

Gln Cys Lys Thr Arg Gly Ser Ser Leu Ser Asp Ala Val His Val Glu
85 90 95

Phe Ser Pro Asp Trp Leu Ile Leu Gln Ala Leu His Pro Val Phe Glu
100 105 110

Gly Asp Asn Val Ile Leu Arg Cys Gln Gly Lys Asp Asn Lys Asn Thr
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His Gln Lys Val Tyr Tyr Lys Asp Gly Lys Gln Leu Pro Asn Ser Tyr
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Asn Leu Glu Lys Ile Thr Val Asn Ser Val Ser Arg Asp Asn Ser Lys
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Tyr His Cys Thr Ala Tyr Arg Lys Phe Tyr Ile Leu Asp Ile Glu Val
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Thr Ser Lys Pro Leu Asn Ile Gln Val Gln Glu Leu Phe Leu His Pro
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Leu Thr Cys Glu Thr Gln Leu Ser Pro Gln Arg Pro Asp Val Gln Leu
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Gln Phe Ser Leu Phe Arg Asp Ser Gln Thr Leu Gly Leu Gly Trp Ser
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Glu Leu His Cys	Glu Ser Leu	Arg Gly Ser	Pro Pro Ile	Leu Tyr Arg		
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Phe Tyr His Glu	Asp Val Thr	Leu Gly Asn	Ser Ser Ala	Pro Ser Gly		
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Gly Gly Ala Ser	Phe Asn Leu	Ser Leu Thr	Ala Glu His	Ser Gly Asn		
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Tyr Ser Cys Asp	Ala Asp Asn	Gly Leu Gly	Ala Gln His	Ser His Gly		
	450		455		460	

Val Ser Leu Arg Val Thr Val Pro Val Ser Arg Pro Val Leu Thr Leu
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Arg Ala Pro Gly Ala Gln Ala Val Val Gly Asp Leu Leu Glu Leu His
 485 490 495

Cys Glu Ser Leu Arg Gly Ser Phe Pro Ile Leu Tyr Trp Phe Tyr His
 500 505 510

Glu Asp Asp Thr Leu Gly Asn Ile Ser Ala His Ser Gly Gly Gly Ala
 515 520 525

Ser Phe Asn Leu Ser Leu Thr Thr Glu His Ser Gly Asn Tyr Ser Cys
 530 535 540

Glu Ala Asp Asn Gly Leu Gly Ala Gln His Ser Lys Val Val Thr Leu
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Asn Val Thr Gly Thr Ser Arg Asn Arg Thr Gly Leu Thr Ala Ala Gly
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Ile Thr Gly Leu Val Leu Ser Ile Leu Val Leu Ala Ala Ala Ala Ala
 580 585 590

Leu Leu His Tyr Ala Arg Ala Arg Arg Lys Pro Gly Gly Leu Ser Ala
 595 600 605

Thr Gly Thr Ser Ser His Ser Pro Ser Glu Cys Gln Glu Pro Ser Ser
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Ser Arg Pro Ser Arg Ile Asp Pro Gln Glu Pro Thr His Ser Lys Pro
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Leu Ala Pro Met Glu Leu Glu Pro Met Tyr Ser Asn Val Asn Pro Gly
 645 650 655

Asp Ser Asn Pro Ile Tyr Ser Gln Ile Trp Ser Ile Gln His Thr Lys
 660 665 670

Glu Asn Ser Ala Asn Cys Pro Met Met His Gln Glu His Glu Glu Leu
 675 680 685

Thr Val Leu Tyr Ser Glu Leu Lys Lys Thr His Pro Asp Asp Ser Ala
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Gly Glu Ala Ser Ser Arg Gly Arg Ala His Glu Glu Asp Asp Glu Glu
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Asn Tyr Glu Asn Val Pro Arg Val Leu Leu Ala Ser Asp His
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 <213> Homo Sapiens

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<212> PRT

<213> Homo Sapiens

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Ser Ile Val Leu Lys Cys Gln Gly Glu Gln Asn Trp Lys Ile Gln Lys
35 40 45

Met Ala Tyr His Lys Asp Asn Lys Glu Leu Ser Val Phe Lys Lys Phe
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Ser Asp Phe Leu Ile Gln Ser Ala Val Leu Ser Asp Ser Gly Asn Tyr
65 70 75 80

Phe Cys Ser Thr Lys Gly Gln Leu Phe Leu Trp Asp Lys Thr Ser Asn
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Ile Val Lys Ile Lys Val Gln Glu Leu Phe Gln Arg Pro Val Leu Thr
100 105 110

Ala Ser Ser Phe Gln Pro Ile Glu Gly Gly Pro Val Ser Leu Lys Cys
115 120 125

Glu Thr Arg Leu Ser Pro Gln Arg Leu Asp Val Gln Leu Gln Phe Cys
130 135 140

Phe Phe Arg Glu Asn Gln Val Leu Gly Ser Gly Trp Ser Ser Ser Pro
145 150 155 160

Glu Leu Gln Ile Ser Ala Val Trp Ser Glu Asp Thr Gly Ser Tyr Trp
165 170 175

Cys Lys Ala Glu Thr Val Thr His Arg Ile Arg Lys Gln Ser Leu Gln
180 185 190

Ser Gln Ile His Val Gln Arg Ile Pro Ile Ser Asn Val Ser Leu Glu
195 200 205

Ile Arg Ala Pro Gly Gly Gln Val Thr Glu Gly Gln Lys Leu Ile Leu
210 215 220

Leu Cys Ser Val Ala Gly Gly Thr Gly Asn Val Thr Phe Ser Trp Tyr
225 230 235 240

Arg Glu Ala Thr Gly Thr Ser Met Gly Lys Lys Thr Gln Arg Ser Leu
245 250 255

Ser Ala Glu Leu Glu Ile Pro Ala Val Lys Glu Ser Asp Ala Gly Lys
260 265 270

Tyr Tyr Cys Arg Ala Asp Asn Gly His Val Pro Ile Gln Ser Lys Val
275 280 285

Val Asn Ile Pro Val Arg Ile Pro Val Ser Arg Pro Val Leu Thr Leu
290 295 300

Arg Ser Pro Gly Ala Gln Ala Ala Val Gly Asp Leu Leu Glu Leu His
305 310 315 320

Cys Glu Ala Leu Arg Gly Ser Pro Pro Ile Leu Tyr Gln Phe Tyr His
325 330 335

Glu Asp Val Thr Leu Gly Asn Ser Ser Ala Pro Ser Gly Gly Gly Ala
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Ser Phe Asn Leu Ser Leu Thr Ala Glu His Ser Gly Asn Tyr Ser Cys
355 360 365

Glu Ala Asn Asn Gly Leu Gly Ala Gln Cys Ser Glu Ala Val Pro Val
370 375 380

Ser Ile Ser Gly Pro Asp Gly Tyr Arg Arg Asp Leu Met Thr Ala Gly
385 390 395 400

Val Leu Trp Gly Leu Phe Gly Val Leu Gly Phe Thr Gly Val Ala Leu
405 410 415

Leu Leu Tyr Ala Leu Phe His Lys Ile Ser Gly Glu Ser Ser Ala Thr
420 425 430

Asn Glu Pro Arg Gly Ala Ser Arg Pro Asn Pro Gln Glu Phe Thr Tyr
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Ser Ser Pro Thr Pro Asp Met Glu Glu Leu Gln Pro Val Tyr Val Asn
17

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 <212> PRT
 <213> Homo Sapiens

<400> 9

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 20 25 30

Pro Val Thr Leu Thr Cys Lys Met Pro Phe Leu Gln Ser Ser Asp Ala
 35 40 45

Gln Phe Gln Phe Cys Phe Phe Arg Asp Thr Arg Ala Leu Gly Pro Gly
 50 55 60

Trp Ser Ser Ser Pro Lys Leu Gln Ile Ala Ala Met Trp Lys Glu Asp
 65 70 75 80

Thr Gly Ser Tyr Trp Cys Glu Ala Gln Thr Met Ala Ser Lys Val Leu
 85 90 95

Arg Ser Arg Arg Ser Gln Ile Asn Val His Arg Val Pro Val Ala Asp
 100 105 110

Val Ser Leu Glu Thr Gln Pro Pro Gly Gly Gln Val Met Glu Gly Asp
 115 120 125

Arg Leu Val Leu Ile Cys Ser Val Ala Met Gly Thr Gly Asp Ile Thr
 130 135 140

Phe Leu Trp Tyr Lys Gly Ala Val Gly Leu Asn Leu Gln Ser Lys Thr
 145 150 155 160

Gln Arg Ser Leu Thr Ala Glu Tyr Glu Ile Pro Ser Val Arg Glu Ser
 165 170 175

Asp Ala Glu Gln Tyr Tyr Cys Val Ala Glu Asn Gly Tyr Gly Pro Ser
 180 185 190

Pro Ser Gly Leu Val Ser Ile Thr Val Arg Ile Pro Val Ser Arg Pro
 195 200 205

Ile Leu Met Leu Arg Ala Pro Arg Ala Gln Ala Ala Val Glu Asp Val
 210 215 220

Leu Glu Leu His Cys Glu Ala Leu Arg Gly Ser Pro Pro Ile Leu Tyr
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Trp Phe Tyr His Glu Asp Ile Thr Leu Gly Ser Arg Ser Ala Pro Ser
 245 250 255

20

Gly Gly Gly Ala Ser Phe Asn Leu Ser Leu Thr Glu Glu His Ser Gly
 260 265 270

Asn Tyr Ser Cys Glu Ala Asn Asn Gly Leu Gly Ala Gln Arg Ser Glu
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Ala Val Thr Leu Asn Phe Thr Val Pro Thr Gly Ala Arg Ser Asn His
 290 295 300

Leu Thr Ser Gly Val Ile Glu Gly Leu Leu Ser Thr Leu Gly Pro Ala
 305 310 315 320

Thr Val Ala Leu Leu Phe Cys Tyr Gly Leu Lys Arg Lys Ile Gly Arg
 325 330 335

Arg Ser Ala Arg Asp Pro Leu Arg Ser Leu Pro Ser Pro Leu Pro Gln
 340 345 350

Glu Phe Thr Tyr Leu Asn Ser Pro Thr Pro Gly Gln Leu Gln Pro Ile
 355 360 365

Tyr Glu Asn Val Asn Val Val Ser Gly Asp Glu Val Tyr Ser Leu Ala
 370 375 380

Tyr Tyr Asn Gln Pro Glu Gln Glu Ser Val Ala Ala Glu Thr Leu Gly
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Thr His Met Glu Asp Lys Val Ser Leu Asp Ile Tyr Ser Arg Leu Arg
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Lys Ala Asn Ile Thr Asp Val Asp Tyr Glu Asp Ala Met
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<211> 2303

<212> DNA

<213> Homo Sapiens

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 <212> DNA
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<210> 12
 <211> 90
 <212> DNA
 <213> Homo Sapiens

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<210> 13
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 <212> DNA
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<211> 515
<212> PRT
<213> Homo Sapiens

<400> 15

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Thr Phe Phe Lys Gly Glu Arg Val Thr Leu Thr Cys Asn Gly Phe Gln
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Phe Tyr Ala Thr Glu Lys Thr Thr Trp Tyr His Arg His Tyr Trp Gly
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Glu Lys Leu Thr Leu Thr Pro Gly Asn Thr Leu Glu Val Arg Glu Ser
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Gly Leu Tyr Arg Cys Gln Ala Arg Gly Ser Pro Arg Ser Asn Pro Val
85 90 95

Arg Leu Leu Phe Ser Ser Asp Ser Leu Ile Leu Gln Ala Pro Tyr Ser
100 105 110

Val Phe Glu Gly Asp Thr Leu Val Leu Arg Cys His Arg Arg Arg Lys
115 120 125

Glu Lys Leu Thr Ala Val Lys Tyr Thr Trp Asn Gly Asn Ile Leu Ser
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130		135		140
Ile Ser Asn Lys Ser Trp Asp Leu Leu Ile Pro Gln Ala Ser Ser Asn				
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Asn Asn Gly Asn Tyr Arg Cys Ile Gly Tyr Gly Asp Glu Asn Asp Val				
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Phe Arg Ser Asn Phe Lys Ile Ile Lys Ile Gln Glu Leu Phe Pro His				
	180		185	190
Pro Glu Leu Lys Ala Thr Asp Ser Gln Pro Thr Glu Gly Asn Ser Val				
	195		200	205
Asn Leu Ser Cys Glu Thr Gln Leu Pro Pro Glu Arg Ser Asp Thr Pro				
210		215		220
Leu His Phe Asn Phe Phe Arg Asp Gly Glu Val Ile Leu Ser Asp Trp				
225		230		235 240
Ser Thr Tyr Pro Glu Leu Gln Leu Pro Thr Val Trp Arg Glu Asn Ser				
	245		250	255
Gly Ser Tyr Trp Cys Gly Ala Glu Thr Val Arg Gly Asn Ile His Lys				
	260		265	270
His Ser Pro Ser Leu Gln Ile His Val Gln Arg Ile Pro Val Ser Gly				
	275		280	285
Val Leu Leu Glu Thr Gln Pro Ser Gly Gly Gln Ala Val Glu Gly Glu				
290		295		300
Met Leu Val Leu Val Cys Ser Val Ala Glu Gly Thr Gly Asp Thr Thr				
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Phe Ser Trp His Arg Glu Asp Met Gln Glu Ser Leu Gly Arg Lys Thr				
	325		330	335
Gln Arg Ser Leu Arg Ala Glu Leu Glu Leu Pro Ala Ile Arg Gln Ser				
	340		345	350
His Ala Gly Gly Tyr Tyr Cys Thr Ala Asp Asn Ser Tyr Gly Pro Val				
	355		360	365

Gln Ser Met Val Leu Asn Val Thr Val Arg Glu Thr Pro Gly Asn Arg
 370 375 380

Asp Gly Leu Val Ala Ala Gly Ala Thr Gly Gly Leu Leu Ser Ala Leu
 385 390 395 400

Ile Leu Ala Val Ala Leu Leu Phe His Cys Trp Arg Arg Arg Lys Ser
 405 410 415

Gly Val Gly Phe Leu Gly Asp Glu Thr Arg Leu Pro Pro Ala Pro Gly
 420 425 430

Pro Gly Glu Ser Ser His Ser Ile Cys Pro Ala Gln Val Glu Leu Gln
 435 440 445

Ser Leu Tyr Val Asp Val His Pro Lys Lys Gly Asp Leu Val Tyr Ser
 450 455 460

Glu Ile Gln Thr Thr Gln Leu Gly Glu Glu Glu Glu Ala Asn Thr Ser
 465 470 475 480

Arg Thr Leu Leu Glu Asp Lys Asp Val Ser Val Val Tyr Ser Glu Val
 485 490 495

Lys Thr Gln His Pro Asp Asn Ser Ala Gly Lys Ile Ser Ser Lys Asp
 500 505 510

Glu Glu Ser
 515

<210> 16
 <211> 2805
 <212> DNA
 <213> Homo Sapiens

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 tcctggctcc tgtcagtgga cagtttgcaa ggacaccag gccattatt ttcctccagc 180
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 aaaccccaga caatatacct gaggttcagg aatctggaga gtacagatgc caggcccagg 360
 gctccctct cagtagccct gtgcacttgg attttcttc agcttcgctg atcctgcaag 420

ctccactttc tgtgtttgaa ggagactctg tggttctgag gtgccgggca aaggcggaag	480
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ccatgtggag taaagattca gggttctact ggtgtaaggc agcaacaatg cctcacagcg	900
tcatatctga cagcccgaga tcctggatac aggtgcagat ccctgcatct catcctgtcc	960
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<210> 17
<211> 759
<212> PRT
<213> Homo Sapiens

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<400> 17

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Met Leu Leu Trp Val Ile Leu Leu Val Leu Ala Pro Val Ser Gly Gln
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```

```

Phe Ala Arg Thr Pro Arg Pro Ile Ile Phe Leu Gln Pro Pro Trp Thr
          20           25           30

```

```

Thr Val Phe Gln Gly Glu Arg Val Thr Leu Thr Cys Lys Gly Phe Arg
          35           40           45

```

```

Phe Tyr Ser Pro Gln Lys Thr Lys Trp Tyr His Arg Tyr Leu Gly Lys
50           55           60

```

```

Glu Ile Leu Arg Glu Thr Pro Asp Asn Ile Leu Glu Val Gln Glu Ser
65           70           75           80

```

```

Gly Glu Tyr Arg Cys Gln Ala Gln Gly Ser Pro Leu Ser Ser Pro Val
          85           90           95

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His Leu Asp Phe Ser Ser Ala Ser Leu Ile Leu Gln Ala Pro Leu Ser
100           105           110

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Val Phe Glu Gly Asp Ser Val Val Leu Arg Cys Arg Ala Lys Ala Glu
          29

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115	120	125
Val Thr Leu Asn Asn Thr Ile Tyr Lys Asn Asp Asn Val Leu Ala Phe		
130	135	140
Leu Asn Lys Arg Thr Asp Phe His Ile Pro His Ala Cys Leu Lys Asp		
145	150	155
Asn Gly Ala Tyr Arg Cys Thr Gly Tyr Lys Glu Ser Cys Cys Pro Val		
	165	170
Ser Ser Asn Thr Val Lys Ile Gln Val Gln Glu Pro Phe Thr Arg Pro		
	180	185
Val Leu Arg Ala Ser Ser Phe Gln Pro Ile Ser Gly Asn Pro Val Thr		
	195	200
Leu Thr Cys Glu Thr Gln Leu Ser Leu Glu Arg Ser Asp Val Pro Leu		
	210	215
Arg Phe Arg Phe Phe Arg Asp Asp Gln Thr Leu Gly Leu Gly Trp Ser		
225	230	235
Leu Ser Pro Asn Phe Gln Ile Thr Ala Met Trp Ser Lys Asp Ser Gly		
	245	250
Phe Tyr Trp Cys Lys Ala Ala Thr Met Pro His Ser Val Ile Ser Asp		
	260	265
Ser Pro Arg Ser Trp Ile Gln Val Gln Ile Pro Ala Ser His Pro Val		
	275	280
Leu Thr Leu Ser Pro Glu Lys Ala Leu Asn Phe Glu Gly Thr Lys Val		
	290	295
Thr Leu His Cys Glu Thr Gln Glu Asp Ser Leu Arg Thr Leu Tyr Arg		
305	310	315
Phe Tyr His Glu Gly Val Pro Leu Arg His Lys Ser Val Arg Cys Glu		
	325	330
Arg Gly Ala Ser Ile Ser Phe Ser Leu Thr Thr Glu Asn Ser Gly Asn		
	340	345
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Tyr Tyr Cys Thr Ala Asp Asn Gly Leu Gly Ala Lys Pro Ser Lys Ala
 355 360 365

Val Ser Leu Ser Val Thr Val Pro Val Ser His Pro Val Leu Asn Leu
 370 375 380

Ser Ser Pro Glu Asp Leu Ile Phe Glu Gly Ala Lys Val Thr Leu His
 385 390 395 400

Cys Glu Ala Gln Arg Gly Ser Leu Pro Ile Leu Tyr Gln Phe His His
 405 410 415

Glu Asp Ala Ala Leu Glu Arg Arg Ser Ala Asn Ser Ala Gly Gly Val
 420 425 430

Ala Ile Ser Phe Ser Leu Thr Ala Glu His Ser Gly Asn Tyr Tyr Cys
 435 440 445

Ala Thr Asp Asn Gly Phe Gly Pro Gln Arg Ser Lys Ala Val Ser Leu
 450 455 460

Ser Ile Thr Val Pro Val Ser His Pro Val Leu Thr Leu Ser Ser Ala
 465 470 475 480

Glu Ala Leu Thr Phe Glu Gly Ala Thr Val Thr Leu His Cys Glu Val
 485 490 495

Gln Arg Gly Ser Pro Gln Ile Leu Tyr Gln Phe Tyr His Glu Asp Met
 500 505 510

Pro Leu Trp Ser Ser Ser Thr Pro Ser Val Gly Arg Val Ser Phe Ser
 515 520 525

Phe Ser Leu Thr Glu Gly His Ser Gly Asn Tyr Tyr Cys Thr Ala Asp
 530 535 540

Asn Gly Phe Gly Pro Gln Arg Ser Glu Val Val Ser Leu Phe Val Thr
 545 550 555 560

Val Pro Val Ser Arg Pro Ile Leu Thr Leu Arg Val Pro Arg Ala Gln
 565 570 575

Ala Val Val Gly Asp Leu Leu Glu Leu His Cys Glu Ala Pro Arg Gly
 580 585 590

Ser Pro Pro Ile Leu Tyr Trp Phe Tyr His Glu Asp Val Thr Leu Gly
595 600 605

Ser Ser Ser Ala Pro Ser Gly Gly Glu Ala Ser Phe Asn Leu Ser Leu
610 615 620

Thr Ala Glu His Ser Gly Asn Tyr Ser Cys Glu Ala Asn Asn Gly Leu
625 630 635 640

Val Ala Gln His Ser Asp Thr Ile Ser Leu Ser Val Ile Val Pro Val
645 650 655

Ser Arg Pro Ile Leu Thr Phe Arg Ala Pro Arg Ala Gln Ala Val Val
660 665 670

Gly Asp Leu Leu Glu Leu His Cys Glu Ala Leu Arg Gly Ser Ser Pro
675 680 685

Ile Leu Tyr Trp Phe Tyr His Glu Asp Val Thr Leu Gly Lys Ile Ser
690 695 700

Ala Pro Ser Gly Gly Gly Ala Ser Phe Asn Leu Ser Leu Thr Thr Glu
705 710 715 720

His Ser Gly Ile Tyr Ser Cys Glu Ala Asp Asn Gly Leu Glu Ala Gln
725 730 735

Arg Ser Glu Met Val Thr Leu Lys Val Ala Gly Glu Trp Ala Leu Pro
740 745 750

Thr Ser Ser Thr Ser Glu Asn
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<210> 18

<211> 4448

<212> DNA

<213> Homo Sapiens

<400> 18

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<210> 19
 <211> 592
 <212> PRT
 <213> Homo Sapiens

<400> 19

Met Leu Leu Trp Val Ile Leu Leu Val Leu Ala Pro Val Ser Gly Gln
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Phe Ala Arg Thr Pro Arg Pro Ile Ile Phe Leu Gln Pro Pro Trp Thr
 20 25 30

Thr Val Phe Gln Gly Glu Arg Val Thr Leu Thr Cys Lys Gly Phe Arg
 35 40 45

Phe Tyr Ser Pro Gln Lys Thr Lys Trp Tyr His Arg Tyr Leu Gly Lys
 50 55 60

Glu Ile Leu Arg Glu Thr Pro Asp Asn Ile Leu Glu Val Gln Glu Ser
 65 70 75 80

Gly Glu Tyr Arg Cys Gln Ala Gln Gly Ser Pro Leu Ser Ser Pro Val
 85 90 95

His Leu Asp Phe Ser Ser Ala Ser Leu Ile Leu Gln Ala Pro Leu Ser
 100 105 110

Val Phe Glu Gly Asp Ser Val Val Leu Arg Cys Arg Ala Lys Ala Glu
 115 120 125

Val Thr Leu Asn Asn Thr Ile Tyr Lys Asn Asp Asn Val Leu Ala Phe
 130 135 140

Leu Asn Lys Arg Thr Asp Phe His Ile Pro His Ala Cys Leu Lys Asp
 145 150 155 160

Asn Gly Ala Tyr Arg Cys Thr Gly Tyr Lys Glu Ser Cys Cys Pro Val
 165 170 175

Ser Ser Asn Thr Val Lys Ile Gln Val Gln Glu Pro Phe Thr Arg Pro
 180 185 190

Val Leu Arg Ala Ser Ser Phe Gln Pro Ile Ser Gly Asn Pro Val Thr
 195 200 205

Leu Thr Cys Glu Thr Gln Leu Ser Leu Glu Arg Ser Asp Val Pro Leu
 210 215 220

Arg Phe Arg Phe Phe Arg Asp Asp Gln Thr Leu Gly Leu Gly Trp Ser
 225 230 235 240

Leu Ser Pro Asn Phe Gln Ile Thr Ala Met Trp Ser Lys Asp Ser Gly
 245 250 255

Phe Tyr Trp Cys Lys Ala Ala Thr Met Pro His Ser Val Ile Ser Asp
 260 265 270

Ser Pro Arg Ser Trp Ile Gln Val Gln Ile Pro Ala Ser His Pro Val
 275 280 285

Leu Thr Leu Ser Pro Glu Lys Ala Leu Asn Phe Glu Gly Thr Lys Val
 290 295 300

Thr Leu His Cys Glu Thr Gln Glu Asp Ser Leu Arg Thr Leu Tyr Arg
 305 310 315 320

Phe Tyr His Glu Gly Val Pro Leu Arg His Lys Ser Val Arg Cys Glu
 325 330 335

Arg Gly Ala Ser Ile Ser Phe Ser Leu Thr Thr Glu Asn Ser Gly Asn
 340 345 350

Tyr Tyr Cys Thr Ala Asp Asn Gly Leu Gly Ala Lys Pro Ser Lys Ala
355 360 365

Val Ser Leu Ser Val Thr Val Pro Val Ser His Pro Val Leu Asn Leu
370 375 380

Ser Ser Pro Glu Asp Leu Ile Phe Glu Gly Ala Lys Val Thr Leu His
385 390 395 400

Cys Glu Ala Gln Arg Gly Ser Leu Pro Ile Leu Tyr Gln Phe His His
405 410 415

Glu Asp Ala Ala Leu Glu Arg Arg Ser Ala Asn Ser Ala Gly Gly Val
420 425 430

Ala Ile Ser Phe Ser Leu Thr Ala Glu His Ser Gly Asn Tyr Tyr Cys
435 440 445

Thr Ala Asp Asn Gly Phe Gly Pro Gln Arg Ser Lys Ala Val Ser Leu
450 455 460

Ser Ile Thr Val Pro Val Ser His Pro Val Leu Thr Leu Ser Ser Ala
465 470 475 480

Glu Ala Leu Thr Phe Glu Gly Ala Thr Val Thr Leu His Cys Glu Val
485 490 495

Gln Arg Gly Ser Pro Gln Ile Leu Tyr Gln Phe Tyr His Glu Asp Met
500 505 510

Pro Leu Val Ser Ser Ser Thr Pro Ser Val Gly Arg Val Ser Phe Ser
515 520 525

Phe Ser Leu Thr Glu Gly His Ser Gly Asn Tyr Tyr Cys Thr Ala Asp
530 535 540

Asn Gly Phe Gly Pro Gln Arg Ser Glu Val Val Ser Leu Phe Val Thr
545 550 555 560

Gly Lys Cys Trp Val Leu Ala Ser Lys Pro Pro Leu Ala Glu Phe Ser
565 570 575

Leu Thr His Ser Phe Lys Asn Leu Phe Ala Leu Ser Ser Phe Leu Pro
37

580

585

590

<210> 20
 <211> 5323
 <212> DNA
 <213> Homo Sapiens

<400> 20
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 ctccactttc tgtgtttgaa ggagactctg tggttctgag gtgccgggca aaggcggaag 480
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<210> 21
<211> 977
<212> PRT
<213> Homo sapiens

<400> 21

Met Leu Leu Trp Val Ile Leu Leu Val Leu Ala Pro Tyr Ser Gly Gln
1 5 10 15

Phe Ala Arg Thr Pro Arg Pro Ile Ile Phe Leu Gln Pro Pro Trp Thr
20 25 30

Thr Val Phe Gln Gly Glu Arg Val Thr Leu Thr Cys Lys Gly Phe Arg
35 40 45

Phe Tyr Ser Pro Gln Lys Thr Lys Trp Tyr His Arg Tyr Leu Gly Lys
50 55 60

Glu Ile Leu Arg Glu Thr Pro Asp Asn Ile Leu Glu Val Gln Glu Ser
65 70 75 80

Gly Ser Tyr Arg Cys Gln Ala Gln Gly Ser Pro Leu Ser Ser Pro Val
85 90 95

His Leu Asp Phe Ser Ser Ala Ser Leu Ile Leu Gln Ala Pro Leu Ser
100 105 110

Val Phe Glu Gly Asp Ser Val Val Leu Arg Cys Arg Ala Lys Ala Glu
115 120 125

Val Thr Leu Asn Asn Thr Ile Tyr Lys Asn Asp Asn Val Leu Ala Phe
130 135 140

Leu Asn Lys Arg Thr Asp Phe His Ile Pro His Ala Cys Leu Lys Asp
145 150 155 160

Asn Gly Ala Tyr Arg Cys Thr Gly Tyr Lys Glu Ser Cys Cys Pro Val
41

165	170	175
Ser Ser Asn Thr Val Lys Ile Gln Val Gln Glu Pro Phe Thr Arg Pro		
180	185	190
Val Leu Arg Ala Ser Ser Phe Gln Pro Ile Ser Gly Asn Pro Val Thr		
195	200	205
Leu Thr Cys Glu Thr Gln Leu Ser Leu Glu Arg Ser Asp Val Pro Leu		
210	215	220
Arg Phe Arg Phe Phe Arg Asp Asp Gln Thr Leu Gly Leu Gly Trp Ser		
225	230	235
Leu Ser Pro Asn Phe Gln Ile Thr Ala Met Trp Ser Lys Asp Ser Gly		
245	250	255
Phe Tyr Trp Cys Lys Ala Ala Thr Met Pro His Ser Val Ile Ser Asp		
260	265	270
Ser Pro Arg Ser Trp Ile Gln Val Gln Ile Pro Ala Ser His Pro Val		
275	280	285
Leu Thr Leu Ser Pro Glu Lys Ala Leu Asn Phe Glu Gly Thr Lys Val		
290	295	300
Thr Leu His Cys Glu Thr Gln Glu Asp Ser Leu Arg Thr Leu Tyr Arg		
305	310	315
Phe Tyr His Glu Gly Val Pro Leu Arg His Lys Ser Val Arg Cys Glu		
325	330	335
Arg Gly Ala Ser Ile Ser Phe Ser Leu Thr Thr Glu Asn Ser Gly Asn		
340	345	350
Tyr Tyr Cys Thr Ala Asp Asn Gly Leu Gly Ala Lys Pro Ser Lys Ala		
355	360	365
Val Ser Leu Ser Val Thr Val Pro Val Ser His Pro Val Leu Asn Leu		
370	375	380
Ser Ser Pro Glu Asp Leu Ile Phe Glu Gly Ala Lys Val Thr Leu His		
385	390	395
		400

Cys Glu Ala Gln Arg Gly Ser Leu Pro Ile Leu Tyr Gln Phe His His
 405 410 415
 Glu Asp Ala Ala Leu Glu Arg Arg Ser Ala Asn Ser Ala Gly Gly Val
 420 425 430
 Ala Ile Ser Phe Ser Leu Thr Ala Glu His Ser Gly Asn Tyr Tyr Cys
 435 440 445
 Thr Ala Asp Asn Gly Phe Gly Pro Gln Arg Ser Lys Ala Val Ser Leu
 450 455 460
 Ser Ile Thr Val Pro Val Ser His Pro Val Leu Thr Leu Ser Ser Ala
 465 470 475 480
 Glu Ala Leu Thr Phe Glu Gly Ala Thr Val Thr Leu His Cys Glu Val
 485 490 495
 Gln Arg Gly Ser Pro Gln Ile Leu Tyr Gln Phe Tyr His Glu Asp Met
 500 505 510
 Pro Leu Trp Ser Ser Ser Thr Pro Ser Val Gly Arg Val Ser Phe Ser
 515 520 525
 Phe Ser Leu Thr Glu Gly His Ser Gly Asn Tyr Tyr Cys Thr Ala Asp
 530 535 540
 Asn Gly Phe Gly Pro Gln Arg Ser Glu Val Val Ser Leu Phe Val Thr
 545 550 555 560
 Val Pro Val Ser Arg Pro Ile Leu Thr Leu Arg Val Pro Arg Ala Gln
 565 570 575
 Ala Val Val Gly Asp Leu Leu Glu Leu His Cys Glu Ala Pro Arg Gly
 580 585 590
 Ser Pro Pro Ile Leu Tyr Trp Phe Tyr His Glu Asp Val Thr Leu Gly
 595 600 605
 Ser Ser Ser Ala Pro Ser Gly Gly Glu Ala Ser Phe Asn Leu Ser Leu
 610 615 620
 Thr Ala Glu His Ser Gly Asn Tyr Ser Cys Glu Ala Asn Asn Gly Leu
 625 630 635 640

Val Ala Gln His Ser Asp Thr Ile Ser Leu Ser Val Ile Val Pro Val
645 650 655

Ser Arg Pro Ile Leu Thr Phe Arg Ala Pro Arg Ala Gln Ala Val Val
660 665 670

Gly Asp Leu Leu Glu Leu His Cys Glu Ala Leu Arg Gly Ser Ser Pro
675 680 685

Ile Leu Tyr Trp Phe Tyr His Glu Asp Val Thr Leu Gly Lys Ile Ser
690 695 700

Ala Pro Ser Gly Gly Gly Ala Ser Phe Asn Leu Ser Leu Thr Thr Glu
705 710 715 720

His Ser Gly Ile Tyr Ser Cys Glu Ala Asp Asn Gly Leu Glu Ala Gln
725 730 735

Arg Ser Glu Met Val Thr Leu Lys Val Ala Val Pro Val Ser Arg Pro
740 745 750

Val Leu Thr Leu Arg Ala Pro Gly Thr His Ala Ala Val Gly Asp Leu
755 760 765

Leu Thr Glu Leu His Cys Glu Ala Leu Arg Gly Ser Pro Leu Ile Leu
770 775 780

Tyr Arg Phe Phe His Glu Asp Val Thr Leu Gly Asn Glu Leu His Cys
785 790 795 800

Glu Ala Leu Arg Gly Ser Pro Leu Ile Leu Tyr Arg Phe Phe His Glu
805 810 815

Asp Val Thr Leu Gly Asn Asn Gly Leu Gly Ala Gln Arg Ser Glu Thr
820 825 830

Val Thr Leu Tyr Ile Thr Gly Leu Thr Ala Asn Arg Ser Gly Pro Phe
835 840 845

Ala Thr Gly Val Ala Gly Gly Leu Leu Ser Ile Ala Gly Leu Ala Ala
850 855 860

Gly Ala Leu Leu Leu Tyr Cys Trp Leu Ser Arg Lys Ala Gly Arg Lys
865 870 875 880

Pro Ala Ser Asp Pro Ala Arg Ser Pro Ser Asp Ser Asp Ser Gln Glu
885 890 895

Pro Thr Tyr His Met Val Pro Ala Trp Glu Glu Leu Gln Pro Val Tyr
900 905 910

Thr Asn Ala Asn Pro Arg Gly Glu Asn Val Val Tyr Ser Glu Val Arg
915 920 925

Ile Ile Gln Glu Lys Lys Lys His Ala Val Ala Ser Asp Pro Arg His
930 935 940

Leu Arg Asn Lys Gly Ser Pro Ile Ile Tyr Ser Glu Val Lys Val Ala
945 950 955 960

Ser Thr Pro Val Ser Gly Ser Leu Phe Leu Ala Ser Ser Ala Pro His
965 970 975

Arg

<210> 22
<211> 88
<212> PRT
<213> Homo Sapiens

<400> 22

Met Leu Leu Trp Ala Ser Leu Leu Ala Phe Ala Pro Val Cys Gly Gln
1 5 10 15

Ser Gly Ser Cys Ser Val Ala Asp Trp Gln Met Pro Pro Pro Tyr Val
20 25 30

Val Leu Asp Leu Pro Gln Glu Thr Leu Glu Glu Glu Thr Pro Gly Ala
35 40 45

Asn Leu Trp Pro Thr Thr Ile Thr Phe Leu Thr Leu Phe Leu Leu Ser
50 55 60

Leu Phe Tyr Ser Thr Ala Leu Thr Val Thr Ser Val Arg Gly Pro Ser
65 70 75 80

Gly Asn Arg Glu Gly Pro Gln Tyr
85

<210> 23
 <211> 837
 <212> DNA
 <213> Homo Sapiens

<400> 23
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 aagtgctgct ttggcaatct gggctgacct ggcttgcttc ctcagaactc cttctccaac 120
 cctggagcag gcttccatgc tgctgtgggc gtccttgctg gcctttgctc cagtctgtgg 180
 acaatctggc tcttgctctg ttgcagattg gcagatgccg cctccctatg tgggtgctgga 240
 cttgccgcag gagaccctgg aggaggagac ccccgccgcc aacctgtggc ccaccaccat 300
 caccttcctc accctcttcc tgctgagcct gttctatagc acagcactga ccgtgaccag 360
 cgtccggggc ccatctggca acagggaggg cccccagtac tgagcgggag ccggcaaggc 420
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 gctaagagga gagcaccacc tgctccact gtggggggac gtgctctcct gggggggcct 540
 tcacagacac tgaggacacg cgcaggccca gggtcagggc tgagcttccc tccagtgcag 600
 taacgaggat tccgtccagg ctcccatgag caggccaggg ctgagacaga gggcgttggc 660
 aaggatgctg ctcttcaggc tgtgaccct ctgtctttgc agggaggaag tgtggaggaa 720
 cctcttgag aagccagcta tgcttgccag aactcagccc tttcagacgt caccgacctg 780
 cccttactca catgccttcc aggtgcaata aagtggcccc aaggaaaaaa aaaaaaa 837

<210> 24
 <211> 90
 <212> DNA
 <213> Homo Sapiens

<400> 24
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 cgtgggcaca ggtgcacact cacactcaca 90

<210> 25
 <211> 89
 <212> DNA
 <213> Homo Sapiens

<400> 25
 ggctgacag caacttttct tctactagtt catcttaaca cactgctctg tacggggcac 60
 gtgggcacag gtgcacactc acactcaca 89

<210> 26
 <211> 89
 <212> DNA
 <213> Homo Sapiens

<400> 26
 ggctgacag caacttttct tctactagtt catcttaact ttatcctggt aactggcgag 60
 acaacctgtc ttaagtaact gaagggaaa 89

<210> 27
 <211> 77
 <212> DNA
 <213> Homo Sapiens

<400> 27
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 aagtaactga agggaaa 77

<210> 28
 <211> 200
 <212> PRT
 <213> Homo Sapiens

<400> 28

Met Ala Met Glu Thr Gln Met Ser Gln Asn Val Cys Pro Arg Asn Leu
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Trp Leu Leu Gln Pro Leu Thr Val Leu Leu Leu Ala Ser Ala Asp
 20 25 30

Ser Gln Ala Ala Ala Pro Pro Lys Ala Val Leu Lys Leu Glu Pro Pro
 35 40 45

Trp Ile Asn Val Leu Gln Glu Asp Ser Val Thr Leu Thr Cys Cys Gly
 50 55 60

Ala Arg Ser Pro Glu Ser Pro Ser Ile Gln Trp Phe His His Asn Gly
 65 70 75 80

Asn Leu Ile Pro Ile His Thr Gln Ser Ser Tyr Arg Phe Lys Ala Asn
 85 90 95

Asn Asn Asp Ser Gly Glu Tyr Thr Cys Gln Thr Gly Gln Thr Ser Leu
 100 105 110

Ser Asp Pro Val His Leu Thr Val Leu Ser Glu Trp Leu Leu Leu Gln
 115 120 125

Thr Pro His Leu Glu Phe Gln Glu Gly Glu Thr Ile Asn Leu Arg Cys
130 135 140

His Ser Trp Lys Asp Lys Pro Leu Val Lys Val Thr Glu Glu Gln Asn
145 150 155 160

Gly Lys Ser Gln Lys Phe Ser Arg Leu Asp Pro Thr Phe Ser Ile Pro
165 170 175

Gln Ala Asn His Ser His Ser Gly Asp Tyr His Cys Thr Gly Asn Cys
180 185 190

Gly Tyr Thr Leu Phe Ser Ser Lys
195 200

<210> 29
<211> 184
<212> PRT
<213> Homo Sapiens

<400> 29

Met Trp Gln Leu Leu Leu Pro Thr Ala Leu Leu Leu Leu Val Ser Ala
1 5 10 15

Gly Met Arg Thr Glu Asp Leu Pro Lys Ala Val Val Phe Leu Glu Pro
20 25 30

Gln Trp Tyr Arg Val Leu Glu Lys Asp Ser Val Thr Leu Lys Cys Cys
35 40 45

Gly Ala Tyr Ser Pro Glu Leu Asn Ser Thr Gln Trp Phe His Asn Glu
50 55 60

Ser Leu Ile Ser Glu Gln Ala Ser Ser Tyr Phe Ile Asp Ala Ala Thr
65 70 75 80

Val Asp Asp Ser Gly Glu Tyr Arg Cys Gln Thr Asn Leu Ser Thr Leu
85 90 95

Ser Asp Pro Val Gln Leu Glu Val His Ile Gly Trp Leu Leu Leu Gln
100 105 110

Ala Pro Arg Trp Val Phe Lys Glu Glu Asp Pro Ile His Leu Arg Cys
115 120 125

His Ser Trp Lys Asn Thr Ala Leu His Lys Val Thr Tyr Leu Gln Asn
 130 135 140

Gly Lys Gly Arg Lys Tyr Phe His His Asn Ser Asp Phe Tyr Ile Pro
 145 150 155 160

Gln Ala Thr Leu Lys Asp Ser Gly Ser Tyr Phe Cys Arg Gly Leu Phe
 165 170 175

Gly Ser Lys Asn Val Ser Ser Glu
 180

<210> 30
 <211> 188
 <212> PRT
 <213> Homo Sapiens

<400> 30

Met Ala Pro Ala Met Glu Ser Pro Thr Leu Leu Cys Val Ala Leu Leu
 1 5 10 15

Phe Phe Ala Asp Asp Gly Val Leu Ala Val Pro Gln Lys Pro Lys Val
 20 25 30

Ser Leu Asn Pro Pro Trp Asn Arg Ile Phe Lys Gly Glu Asn Val Thr
 35 40 45

Leu Thr Cys Asn Gly Asn Asn Phe Phe Glu Val Ser Ser Thr Lys Trp
 50 55 60

Phe His Asn Gly Ser Leu Ser Glu Ser Thr Asn Ser Ser Leu Asn Ile
 65 70 75 80

Val Asn Ala Lys Phe Glu Asp Ser Gly Glu Tyr Lys Cys Gln His Gln
 85 90 95

Gln Val Asn Glu Ser Glu Pro Val Tyr Leu Glu Val Phe Ser Asp Trp
 100 105 110

Leu Leu Leu Gln Ala Ser Ala Glu Val Val Met Glu Gly Gln Pro Leu
 115 120 125

Phe Leu Arg Cys His Gly Trp Arg Asn Trp Pro Val Tyr Lys Val Ile
 130 135 140

Tyr Tyr Lys Asp Gly Glu Ala Leu Lys Tyr Trp Tyr Glu Asn His Asn
145 150 155 160

Ile Ser Ile Thr Asn Ala Thr Val Glu Asp Ser Gly Thr Tyr Tyr Cys
165 170 175

Thr Gly Lys Val Trp Gln Leu Asp Tyr Glu Ser Glu
180 185

<210> 31
<211> 378
<212> PRT
<213> Homo Sapiens

<400> 31

Met Trp Phe Leu Thr Thr Leu Leu Leu Trp Val Pro Val Asp Gly Gln
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Val Asp Thr Thr Lys Ala Val Ile Ser Leu Gln Pro Pro Trp Val Ser
20 25 30

Phe Val Gln Glu Glu Thr Val Thr Leu His Cys Glu Val Leu His Leu
35 40 45

Pro Gly Ser Ser Ser Thr Gln Trp Phe Leu Asn Gly Thr Ala Thr Gln
50 55 60

Thr Ser Thr Pro Ser Tyr Arg Ile Thr Ser Ala Ser Val Asn Asp Ser
65 70 75 80

Gly Glu Tyr Arg Cys Gln Arg Gly Leu Ser Gly Arg Ser Asp Pro Thr
85 90 95

Trp Leu Glu Thr His Arg Gly Trp Leu Leu Leu Gln Tyr Ser Ser Arg
100 105 110

Val Phe Thr Glu Gly Glu Pro Leu Ala Leu Arg Cys His Ala Trp Lys
115 120 125

Asp Lys Leu Val Tyr Asn Val Leu Tyr Tyr Arg Asn Gly Lys Ala Phe
130 135 140

Lys Phe Phe His Trp Asn Ser Asn Leu Ile Ile Leu Lys Ile Asn Ile
145 150 155 160

Ser Ser His Asn Gly Thr Tyr His Cys Ser Gly Asn Gly Lys His Arg
165 170 175

Tyr Thr Ser Ala Gly Lys His Arg Tyr Thr Ser Ala Gly Ile Ser Val
180 185 190

Thr Val Lys Glu Leu Phe Pro Ala Pro Val Leu Asn Ala Ser Val Thr
195 200 205

Ser Pro Leu Leu Glu Gly Asn Leu Val Thr Leu Ser Cys Glu Thr Lys
210 215 220

Leu Leu Leu Gln Arg Pro Gly Leu Gln Leu Tyr Phe Ser Phe Tyr Met
225 230 235 240

Gly Ser Leu Thr Leu Arg Gly Arg Asn Thr Ser Ser Glu Tyr Gln Ile
245 250 255

Leu Thr Ala Arg Arg Glu Asp Ser Gly Leu Tyr Trp Cys Glu Ala Ala
260 265 270

Thr Glu Asp Gly Asn Val Leu Lys Arg Ser Pro Glu Leu Glu Leu Gln
275 280 285

Val Leu Gly Leu Gln Leu Pro Thr Pro Val Val Trp Phe His Val Leu
290 295 300

Gly Tyr Leu Ala Val Gly Ile Met Phe Leu Val Asn Thr Val Leu Trp
305 310 315 320

Val Val Thr Ile Arg Lys Glu Leu Lys Arg Lys Lys Lys Trp Asp Leu
325 330 335

Glu Ile Ser Leu Asp Ser Gly His Glu Lys Lys Val Thr Ser Ser Leu
340 345 350

Gln Glu Asp Arg His Glu Glu Glu Glu Leu Lys Cys Gln Glu Gln Lys
355 360 365

Gly Glu Gln Leu Gln Glu Gly Val His Arg
370 375

<210> 32

<211> 376
<212> PRT
<213> Homo Sapiens

<400> 32

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Ser Ala Ala Ala His Lys Pro Val Ile Ser Val His Pro Pro Trp Thr
20 25 30

Thr Phe Phe Lys Gly Glu Arg Val Thr Leu Thr Cys Asn Gly Phe Gln
35 40 45

Phe Tyr Ala Thr Glu Lys Thr Thr Trp Tyr His Arg His Tyr Trp Gly
50 55 60

Glu Lys Leu Thr Leu Thr Pro Gly Asn Thr Leu Glu Val Arg Ala Ser
65 70 75 80

Gly Leu Tyr Arg Cys Gln Ala Arg Gly Ser Pro Arg Ser Asn Pro Val
85 90 95

Arg Leu Leu Phe Ser Ser Asp Ser Leu Ile Leu Gln Ala Pro Tyr Ser
100 105 110

Val Phe Glu Gly Asp Thr Leu Val Leu Arg Cys His Arg Arg Arg Lys
115 120 125

Glu Lys Leu Thr Ala Val Lys Tyr Thr Trp Asn Gly Asn Ile Leu Ser
130 135 140

Ile Ser Asn Lys Ser Trp Asp Leu Leu Ile Pro Gln Ala Ser Ser Asn
145 150 155 160

Asn Asn Gly Asn Tyr Arg Cys Ile Gly Tyr Gly Val Glu Asn Asp Val
165 170 175

Phe Arg Ser Asn Gly Asp Glu Asn Asp Val Phe Arg Ser Asn Phe Lys
180 185 190

Ile Ile Lys Ile Gln Glu Leu Phe Pro His Pro Glu Leu Lys Ala Thr
195 200 205

Asp Ser Gln Pro Thr Glu Gly Asn Ser Val Asn Leu Ser Cys Glu Thr
52

210	215	220
Gln Leu Pro Pro Glu Arg Ser Asp Thr Pro Leu His Phe Asn Phe Phe		
225	230	235 240
Arg Asp Gly Glu Val Ile Leu Ser Asp Trp Ser Thr Tyr Pro Glu Leu		
	245	250 255
Gln Leu Pro Thr Val Trp Arg Glu Asn Ser Gly Ser Tyr Trp Cys Gly		
	260	265 270
Ala Glu Thr Val Arg Gly Asn Ile His Lys His Ser Pro Ser Leu Gln		
	275	280 285
Ile His Val Gln Arg Ile Pro Val Ser Gly Val Leu Leu Glu Thr Gln		
	290	295 300
Pro Ser Gly Gly Gln Ala Val Glu Gln Glu Met Leu Val Leu Val Cys		
305	310	315 320
Ser Val Ala Glu Gly Thr Gly Asp Thr Thr Phe Ser Trp His Arg Glu		
	325	330 335
Asp Met Gln Glu Ser Leu Gly Arg Lys Thr Gln Arg Ser Leu Arg Ala		
	340	345 350
Glu Leu Glu Leu Pro Ala Ile Arg Gln Ser His Ala Gly Gly Tyr Tyr		
	355	360 365
Cys Thr Ala Asp Asn Ser Tyr Gly		
370	375	

<210> 33
 <211> 373
 <212> PRT
 <213> Homo Sapiens

<400> 33

Met Leu Leu Trp Val Ile Leu Leu Val Leu Ala Pro Val Ser Gly Gln
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Phe Ala Arg Thr Pro Arg Pro Ile Ile Phe Leu Gln Pro Pro Trp Thr
20 25 30
Thr Val Phe Gln Gly Glu Arg Val Thr Leu Thr Cys Lys Gly Phe Arg
53

35	40	45																	
Phe	Tyr	Ser	Pro	Gln	Arg	Thr	Arg	Trp	Tyr	His	Arg	Tyr	Leu	Gly	Lys				
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Glu	Ile	Leu	Arg	Glu	Thr	Pro	Asp	Asn	Ile	Leu	Glu	Val	Gln	Glu	Ser				
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Gly	Glu	Tyr	Arg	Cys	Gln	Ala	Gln	Gly	Ser	Pro	Leu	Ser	Ser	Pro	Val				
				85					90					95					
His	Leu	Asp	Phe	Ser	Ser	Ala	Ser	Leu	Ile	Leu	Gln	Ala	Pro	Leu	Ser				
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Val	Phe	Glu	Gly	Asp	Ser	Val	Val	Leu	Arg	Cys	Arg	Ala	Lys	Ala	Glu				
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Val	Thr	Leu	Asn	Asn	Thr	Ile	Tyr	Lys	Asn	Asp	Asn	Val	Leu	Ala	Phe				
	130					135						140							
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Ser	Ser	Asn	Lys	Glu	Ser	Cys	Cys	Pro	Val	Ser	Ser	Asn	Thr	Val	Lys				
			180					185					190						
Ile	Gln	Val	Gln	Glu	Pro	Phe	Thr	Arg	Pro	Val	Leu	Arg	Ala	Ser	Ser				
		195					200					205							
Phe	Gln	Pro	Thr	Ser	Gly	Asn	Pro	Val	Thr	Leu	Thr	Cys	Glu	Thr	Gln				
	210					215					220								
Leu	Ser	Leu	Glu	Arg	Ser	Asp	Val	Pro	Leu	Arg	Phe	Arg	Phe	Phe	Arg				
225					230					235					240				
Asp	Asp	Gln	Thr	Leu	Gly	Leu	Gly	Trp	Ser	Leu	Ser	Pro	Asn	Phe	Gln				
				245					250					255					
Ile	Thr	Ala	Met	Trp	Ser	Lys	Asp	Ser	Gly	Phe	Tyr	Trp	Cys	Lys	Ala				
			260					265					270						

Ala Thr Met Pro His Ser Val Ile Ser Asp Ser Pro Arg Ser Trp Ile
 275 280 285

Gln Val Gln Ile Pro Ala Ser His Pro Val Leu Thr Leu Ser Pro Glu
 290 295 300

Lys Ala Leu Asn Phe Glu Gly Thr Lys Val Thr Leu His Cys Glu Thr
 305 310 315 320

Gln Glu Asp Ser Leu Arg Thr Leu Tyr Arg Phe Tyr His Glu Gly Val
 325 330 335

Pro Leu Arg His Lys Ser Val Arg Cys Glu Arg Gly Ala Ser Ile Ser
 340 345 350

Phe Ser Leu Thr Thr Glu Asn Ser Gly Asn Tyr Tyr Cys Thr Ala Asp
 355 360 365

Asn Gly Leu Gly Ala
 370

<210> 34
 <211> 26
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 <213> Homo Sapiens

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 <223> Xaa = Any amino acid

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 <222> (26)..(26)
 <223> Xaa = I or L

<220>
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 <223> Xaa = I or L

<220>
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 <223> Xaa = D or E

<220>
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<222> (1)..(1)
<223> Xaa = D or E

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<223> Xaa = Any amino acid

<400> 34

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Xaa Xaa Xaa Xaa Xaa Xaa Tyr Xaa Xaa Xaa
20 25

<210> 35
<211> 63
<212> PRT
<213> Homo Sapiens

<400> 35

Glu Ser Ser His Ser Ile Cys Pro Ala Gln Val Glu Leu Gln Ser Leu
1 5 10 15

Tyr Val Asp Val His Pro Lys Lys Gly Asp Leu Val Tyr Ser Glu Ile
20 25 30

Gln Thr Thr Thr Leu Gly Glu Glu Glu Glu Glu Ala Asn Thr Ser Arg
35 40 45

Thr Leu Leu Glu Asp Lys Asp Val Ser Val Val Tyr Ser Glu Val
50 55 60

<210> 36
 <211> 39
 <212> PRT
 <213> Homo Sapiens

<400> 36

Asp Asn Lys Glu Pro Leu Asn Ser Asp Val Gln Tyr Thr Glu Val Gln
 1 5 10 15

Val Ser Ser Ala Glu Trp Ser His Lys Asp Leu Gly Lys Lys Asp Thr
 20 25 30

Glu Thr Val Tyr Ser Glu Val
 35

<210> 37
 <211> 68
 <212> PRT
 <213> Homo Sapiens

<220>
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 <222> (38)..(61)
 <223> Xaa = Any amino acid

<400> 37

Asp Ser Asp Ser Gln Glu Pro Thr Tyr His Asn Val Pro Ala Trp Glu
 1 5 10 15

Glu Leu Gln Pro Val Tyr Thr Asn Ala Asn Pro Arg Gly Glu Asn Val
 20 25 30

Val Tyr Ser Glu Val Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa
 35 40 45

Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa
 50 55 60

Ser Glu Val Lys
 65

<210> 38
 <211> 65
 <212> PRT
 <213> Homo Sapiens

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 <222> (38)..(58)
 <223> Xaa = Any amino acid

<400> 38

Ala Ser Asp Gln Arg Asp Leu Thr Glu His Lys Pro Ser Val Ser Asn
 1 5 10 15

His Thr Gln Asp His Ser Asn Asp Pro Pro Asn Lys Met Asn Glu Val
 20 25 30

Thr Tyr Ser Thr Leu Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa
 35 40 45

Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Ile Ile Tyr Ser Glu Val
 50 55 60

Lys
 65

<210> 39
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 <213> Artificial Sequence

<220>
 <223> Immune-receptor Tyrosine-based Inhibition Motif

<220>
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 <222> (1)..(1)
 <223> Xaa = S, V, L or I

<220>
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 <223> Xaa = any amino acid

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 <223> Xaa = any amino acid

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 <222> (6)..(6)
 <223> Xaa = L or V

<400> 39

Xaa Xaa Tyr Xaa Xaa Xaa

1 5

<210> 40

<211> 5321

<212> DNA

<213> HOMO SAPIENS

<400> 40

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gacttccata ttctcatgc atgtctcaag gacaatgggt catatcgctg tactggatat      600
aaggaaagtt gttgccctgt ttcttccaat acagtcaaaa tccaagtcca agagccattt      660
acacgtccag tgctgagagc cagctccttc cagcccatca gcgggaacct agtgaccctg      720
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<210> 41
 <211> 977
 <212> PRT
 <213> HOMO SAPIENS

<400> 41

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Phe Ala Arg Thr Pro Arg Pro Ile Ile Phe Leu Gln Pro Pro Trp Thr
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Thr Val Phe Gln Gly Glu Arg Val Thr Leu Thr Cys Lys Gly Phe Arg
 35 40 45

Phe Tyr Ser Pro Gln Lys Thr Lys Trp Tyr His Arg Tyr Leu Gly Lys
 50 55 60

Glu Ile Leu Arg Glu Thr Pro Asp Asn Ile Leu Glu Val Gln Glu Ser
 65 70 75 80

Gly Glu Tyr Arg Cys Gln Ala Gln Gly Ser Pro Leu Ser Ser Pro Val
 85 90 95

His Leu Asp Phe Ser Ser Ala Ser Leu Ile Leu Gln Ala Pro Leu Ser
 100 105 110

Val Phe Glu Gly Asp Ser Val Val Leu Arg Cys Arg Ala Lys Ala Glu
 115 120 125

Val Thr Leu Asn Asn Thr Ile Tyr Lys Asn Asp Asn Val Leu Ala Phe
 130 135 140

Leu Asn Lys Arg Thr Asp Phe His Ile Pro His Ala Cys Leu Lys Asp
 62

145		150		155		160
Asn Gly Ala Tyr	Arg Cys Thr Gly Tyr	Lys Glu Ser Cys Cys	Pro Val			
	165	170	175			
Ser Ser Asn Thr	Val Lys Ile Gln Val	Gln Glu Pro Phe Thr	Arg Pro			
	180	185	190			
Val Leu Arg Ala	Ser Ser Phe Gln Pro	Ile Ser Gly Asn	Pro Val Thr			
	195	200	205			
Leu Thr Cys Glu	Thr Gln Leu Ser	Leu Glu Arg Ser	Asp Val Pro Leu			
	210	215	220			
Arg Phe Arg Phe	Phe Arg Asp Asp	Gln Thr Leu Gly	Leu Gly Trp Ser			
	225	230	235	240		
Leu Ser Pro Asn	Phe Gln Ile Thr	Ala Met Trp Ser	Lys Asp Ser Gly			
	245	250	255			
Phe Tyr Trp Cys	Lys Ala Ala Thr	Met Pro His Ser	Val Ile Ser Asp			
	260	265	270			
Ser Pro Arg Ser	Trp Ile Gln Val	Gln Ile Pro Ala	Ser His Pro Val			
	275	280	285			
Leu Thr Leu Ser	Pro Glu Lys Ala	Leu Asn Phe Glu	Gly Thr Lys Val			
	290	295	300			
Thr Leu His Cys	Glu Thr Gln Glu	Asp Ser Leu Arg	Thr Leu Tyr Arg			
	305	310	315	320		
Phe Tyr His Glu	Gly Val Pro Leu	Arg His Lys Ser	Val Arg Cys Glu			
	325	330	335			
Arg Gly Ala Ser	Ile Ser Phe Ser	Leu Thr Thr Glu	Asn Ser Gly Asn			
	340	345	350			
Tyr Tyr Cys Thr	Ala Asp Asn Gly	Leu Gly Ala Lys	Pro Ser Lys Ala			
	355	360	365			
Val Ser Leu Ser	Val Thr Val Pro	Val Ser His Pro	Val Leu Asn Leu			
	370	375	380			

Ser Ser Pro Glu Asp Leu Ile Phe Glu Gly Ala Lys Val Thr Leu His
 385 390 395 400

Cys Glu Ala Gln Arg Gly Ser Leu Pro Ile Leu Tyr Gln Phe His His
 405 410 415

Glu Asp Ala Ala Leu Glu Arg Arg Ser Ala Asn Ser Ala Gly Gly Val
 420 425 430

Ala Ile Ser Phe Ser Leu Thr Ala Glu His Ser Gly Asn Tyr Tyr Cys
 435 440 445

Thr Ala Asp Asn Gly Phe Gly Pro Gln Arg Ser Lys Ala Val Ser Leu
 450 455 460

Ser Ile Thr Val Pro Val Ser His Pro Val Leu Thr Leu Ser Ser Ala
 465 470 475 480

Glu Ala Leu Thr Phe Glu Gly Ala Thr Val Thr Leu His Cys Glu Val
 485 490 495

Gln Arg Gly Ser Pro Gln Ile Leu Tyr Gln Phe Tyr His Glu Asp Met
 500 505 510

Pro Leu Trp Ser Ser Ser Thr Pro Ser Val Gly Arg Val Ser Phe Ser
 515 520 525

Phe Ser Leu Thr Glu Gly His Ser Gly Asn Tyr Tyr Cys Thr Ala Asp
 530 535 540

Asn Gly Phe Gly Pro Gln Arg Ser Glu Val Val Ser Leu Phe Val Thr
 545 550 555 560

Val Pro Val Ser Arg Pro Ile Leu Thr Leu Arg Val Pro Arg Ala Gln
 565 570 575

Ala Val Val Gly Asp Leu Leu Glu Leu His Cys Glu Ala Pro Arg Gly
 580 585 590

Ser Pro Pro Ile Leu Tyr Trp Phe Tyr His Glu Asp Val Thr Leu Gly
 595 600 605

Ser Ser Ser Ala Pro Ser Gly Gly Glu Ala Ser Phe Asn Leu Ser Leu
 610 615 620

Thr Ala Glu His Ser Gly Asn Tyr Ser Cys Glu Ala Asn Asn Gly Leu
625 630 635 640

Val Ala Gln His Ser Asp Thr Ile Ser Leu Ser Val Ile Val Pro Val
645 650 655

Ser Arg Pro Ile Leu Thr Phe Arg Ala Pro Arg Ala Gln Ala Val Val
660 665 670

Gly Asp Leu Leu Glu Leu His Cys Glu Ala Leu Arg Gly Ser Ser Pro
675 680 685

Ile Leu Tyr Trp Phe Tyr His Glu Asp Val Thr Leu Gly Lys Ile Ser
690 695 700

Ala Pro Ser Gly Gly Gly Ala Ser Phe Asn Leu Ser Leu Thr Thr Glu
705 710 715 720

His Ser Gly Ile Tyr Ser Cys Glu Ala Asp Asn Gly Leu Glu Ala Gln
725 730 735

Arg Ser Glu Met Val Thr Leu Lys Val Ala Val Pro Val Ser Arg Pro
740 745 750

Val Leu Thr Leu Arg Ala Pro Gly Thr His Ala Ala Val Gly Asp Leu
755 760 765

Leu Glu Leu His Cys Glu Ala Leu Arg Gly Ser Pro Leu Ile Leu Tyr
770 775 780

Arg Phe Phe His Glu Asp Val Thr Leu Gly Asn Arg Ser Ser Pro Ser
785 790 795 800

Gly Gly Ala Ser Leu Asn Leu Ser Leu Thr Ala Glu His Ser Gly Asn
805 810 815

Tyr Ser Cys Glu Ala Asp Asn Gly Leu Gly Ala Gln Arg Ser Glu Thr
820 825 830

Val Thr Leu Tyr Ile Thr Gly Leu Thr Ala Asn Arg Ser Gly Pro Phe
835 840 845

Ala Thr Gly Val Ala Gly Gly Leu Leu Ser Ile Ala Gly Leu Ala Ala
850 855 860

Gly Ala Leu Leu Leu Tyr Cys Trp Leu Ser Arg Lys Ala Gly Arg Lys
865 870 875 880

Pro Ala Ser Asp Pro Ala Arg Ser Pro Ser Asp Ser Asp Ser Gln Glu
885 890 895

Pro Thr Tyr His Asn Val Pro Ala Trp Glu Glu Leu Gln Pro Val Tyr
900 905 910

Thr Asn Ala Asn Pro Arg Gly Glu Asn Val Val Tyr Ser Glu Val Arg
915 920 925

Ile Ile Gln Glu Lys Lys Lys His Ala Val Ala Ser Asp Pro Arg His
930 935 940

Leu Arg Asn Lys Gly Ser Pro Ile Ile Tyr Ser Glu Val Lys Val Ala
945 950 955 960

Ser Thr Pro Val Ser Gly Ser Leu Phe Leu Ala Ser Ser Ala Pro His
965 970 975

Arg

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<210> 43
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Phe Ala Arg Thr Pro Arg Pro Ile Ile Phe Leu Gln Pro Pro Trp Thr
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Thr Val Phe Gln Gly Glu Arg Val Thr Leu Thr Cys Lys Gly Phe Arg
 35 40 45

Phe Tyr Ser Pro Gln Lys Thr Lys Trp Tyr His Arg Tyr Leu Gly Lys
 50 55 60

Glu Ile Leu Arg Glu Thr Pro Asp Asn Ile Leu Glu Val Gln Glu Ser
 65 70 75 80

Gly Glu Tyr Arg Cys Gln Ala Gln Gly Ser Pro Leu Ser Ser Pro Val
 85 90 95

His Leu Asp Phe Ser Ser Ala Ser Leu Ile Leu Gln Ala Pro Leu Ser
 100 105 110

Val Phe Glu Gly Asp Ser Val Val Leu Arg Cys Arg Ala Lys Ala Glu
115 120 125

Val Thr Leu Asn Asn Thr Ile Tyr Lys Asn Asp Asn Val Leu Ala Phe
130 135 140

Leu Asn Lys Arg Thr Asp Phe His Ile Pro His Ala Cys Leu Lys Asp
145 150 155 160

Asn Gly Ala Tyr Arg Cys Thr Gly Tyr Lys Glu Ser Cys Cys Pro Val
165 170 175

Ser Ser Asn Thr Val Lys Ile Gln Val Gln Glu Pro Phe Thr Arg Pro
180 185 190

Val Leu Arg Ala Ser Ser Phe Gln Pro Ile Ser Gly Asn Pro Val Thr
195 200 205

Leu Thr Cys Glu Thr Gln Leu Ser Leu Glu Arg Ser Asp Val Pro Leu
210 215 220

Arg Phe Arg Phe Phe Arg Asp Asp Gln Thr Leu Gly Leu Gly Trp Ser
225 230 235 240

Leu Ser Pro Asn Phe Gln Ile Thr Ala Met Trp Ser Lys Asp Ser Gly
245 250 255

Phe Tyr Trp Cys Lys Ala Ala Thr Met Pro His Ser Val Ile Ser Asp
260 265 270

Ser Pro Arg Ser Trp Ile Gln Val Gln Ile Pro Ala Ser His Pro Val
275 280 285

Leu Thr Leu Ser Pro Glu Lys Ala Leu Asn Phe Glu Gly Thr Lys Val
290 295 300

Thr Leu His Cys Glu Thr Gln Glu Asp Ser Leu Arg Thr Leu Tyr Arg
305 310 315 320

Phe Tyr His Glu Gly Val Pro Leu Arg His Lys Ser Val Arg Cys Glu
325 330 335

Arg Gly Ala Ser Ile Ser Phe Ser Leu Thr Thr Glu Asn Ser Gly Asn
69

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Val	Ser	Leu	Ser	Val	Thr	Val	Pro	Val	Ser	His	Pro	Val	Leu	Asn	Leu
	370					375					380				
Ser	Ser	Pro	Glu	Asp	Leu	Ile	Phe	Glu	Gly	Ala	Lys	Val	Thr	Leu	His
385					390					395					400
Cys	Glu	Ala	Gln	Arg	Gly	Ser	Leu	Pro	Ile	Leu	Tyr	Gln	Phe	His	His
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Glu	Asp	Ala	Ala	Leu	Glu	Arg	Arg	Ser	Ala	Asn	Ser	Ala	Gly	Gly	Val
			420					425					430		
Ala	Ile	Ser	Phe	Ser	Leu	Thr	Ala	Glu	His	Ser	Gly	Asn	Tyr	Tyr	Cys
	435						440					445			
Thr	Ala	Asp	Asn	Gly	Phe	Gly	Pro	Gln	Arg	Ser	Lys	Ala	Val	Ser	Leu
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Ser	Ile	Thr	Val	Pro	Val	Ser	His	Pro	Val	Leu	Thr	Leu	Ser	Ser	Ala
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Glu	Ala	Leu	Thr	Phe	Glu	Gly	Ala	Thr	Val	Thr	Leu	His	Cys	Glu	Val
				485					490					495	
Gln	Arg	Gly	Ser	Pro	Gln	Ile	Leu	Tyr	Gln	Phe	Tyr	His	Glu	Asp	Met
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Pro	Leu	Trp	Ser	Ser	Ser	Thr	Pro	Ser	Val	Gly	Arg	Val	Ser	Phe	Ser
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Phe	Ser	Leu	Thr	Glu	Gly	His	Ser	Gly	Asn	Tyr	Tyr	Cys	Thr	Ala	Asp
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Asn	Gly	Phe	Gly	Pro	Gln	Arg	Ser	Glu	Val	Val	Ser	Leu	Phe	Val	Thr
545					550					555					560
Val	Pro	Val	Ser	Arg	Pro	Ile	Leu	Thr	Leu	Arg	Val	Pro	Arg	Ala	Gln
				565					570					575	

Ala Val Val Gly Asp Leu Leu Glu Leu His Cys Glu Ala Pro Arg Gly
580 585 590

Ser Pro Pro Ile Leu Tyr Trp Phe Tyr His Glu Asp Val Thr Leu Gly
595 600 605

Ser Ser Ser Ala Pro Ser Gly Gly Glu Ala Ser Phe Asn Leu Ser Leu
610 615 620

Thr Ala Glu His Ser Gly Asn Tyr Ser Cys Glu Ala Asn Asn Gly Leu
625 630 635 640

Val Ala Gln His Ser Asp Thr Ile Ser Leu Ser Val Ile Val Pro Val
645 650 655

Ser Arg Pro Ile Leu Thr Phe Arg Ala Pro Arg Ala Gln Ala Val Val
660 665 670

Gly Asp Leu Leu Glu Leu His Cys Glu Ala Leu Arg Gly Ser Ser Pro
675 680 685

Ile Leu Tyr Trp Phe Tyr His Glu Asp Val Thr Leu Gly Lys Ile Ser
690 695 700

Ala Pro Ser Gly Gly Gly Ala Ser Phe Asn Leu Ser Leu Thr Thr Glu
705 710 715 720

His Ser Gly Ile Tyr Ser Cys Glu Ala Asp Asn Gly Leu Glu Ala Gln
725 730 735

Arg Ser Glu Met Val Thr Leu Lys Val Ala Gly Glu Trp Ala Leu Pro
740 745 750

Thr Ser Ser Thr Ser Glu Asn
755